

REMARKS

Claims 1-26 are pending in this application. Claims 1, 2, 7, 11, 17, 22-24, and 26 have been amended in part to correct some grammatical errors. Support for the amendments to the claims can be located at paragraphs [0029] and [0034] of the specification.

Claim Objections

The Office has objected to claim 7, arguing that “an emitter region” should read “an emitter electrode. Applicant thanks the Office for noticing that error. Applicant has amended claim 7 and therefore this objection is moot.

Rejection – 35 U.S.C. § 102(b)

The Office has rejected claims 1, 2, 4-11, 13, 15-18, and 20-26 under 35 U.S.C. § 102 (b) as being anticipated by Matthews (U.S. Patent No. 5336926) for the reasons listed on pages 3-8 of the Office Action. Applicant respectfully traverses this rejection.

The rejected claims contain the limitation that the third collector region has an impurity concentration at an interface with the base region higher than the remainder of the third collector region. The Office, however, has not substantiated that Matthews teach or suggests such a limitation.

The Office argues the claims described in the device illustrated in Figure 3 of Matthews. That device contains an emitter region 20, a base region with an intrinsic region 18 and extrinsic regions 17, localized region 15, buried layer 12, and epitaxial layer 11. *See column 3, lines 30-60.* The dopant profile of the device in Figure 3 is illustrated in Figure 4 and described in

column 4, lines 15-34. As best depicted in Figure 4 in Matthews, the dopant concentration of the localized region 15 is low close to the base region, then increases to a high point near the middle of the localized region 15, and then decreases as it nears the epitaxial layer 11.

Thus, the skilled artisan would have understood that the dopant concentration of the localized region (which the Office argues to be a third collector region) is low near the base region and low near the epitaxial layer 11 (which the Office argues to be a second collection region), while being high near the middle of that region. Thus, the Office has not substantiated that Matthews teaches that the third collector region has an impurity concentration at an interface with the base region higher than the remainder of the third collector region.

For the above reasons, the Office has not substantiated that Matthews anticipates each and every limitation in the rejected claims. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 103

The Office has rejected claims 3, 12, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Matthews in view of Yukimoto (U.S. Patent No. 4,337,474) for the reasons listed on pages 8-9 of the Office Action. Applicant respectfully traverses this rejection.

As detailed above, the Office has not shown where Matthews teaches that the third collector region has an impurity concentration at an interface with the base region higher than the remainder of the third collector region. Nor has the Office argued—much less alleged—that the skilled artisan would have been motivated to modify Matthews using the disclosure of Yukimoto to obtain such a limitation. Indeed, in light of the express disclosure in Figure 4 of Matthews, it is

unlikely that the Office could substantiate that it would have been obvious to modify Matthews with the disclosure of Yukimoto to obtain the claimed feature.

Thus, the Office has not substantiated that the combination of Matthews and Yukimoto teaches or suggests every limitation in the rejected claims. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 103

The Office has rejected claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Matthews in view of Applicant's admitted prior art (AAPA) for the reasons listed on page 9 of the Office Action. Applicant respectfully traverses this rejection.

As detailed above, the Office has not shown where Matthews teaches that that the third collector region has an impurity concentration at an interface with the base region higher than the remainder of the third collector region. Nor has the Office argued—much less alleged—that the skilled artisan would have been motivated to modify Matthews using AAPA to obtain such a limitation. Indeed, in light of the express disclosure on Figure 4 in Matthews, it is unlikely that the Office could substantiate that it would have been obvious to modify Matthews with AAPA to obtain the claimed feature.

Thus, the Office has not substantiated that the combination of Matthews and AAPA teaches or suggests every limitation in the rejected claims. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

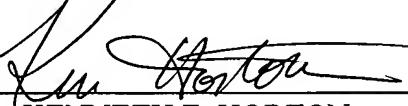
CONCLUSION

For the above reasons, as well as those of record, Applicant respectfully requests the Office to withdraw the pending grounds of rejection and allow the pending claims.

If there is any fee due in connection with the filing of this Amendment, including a fee for any extension of time not accounted for above, please charge the fee to our Deposit Account No. 50-0843.

Respectfully Submitted,

By



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